

ABSTRACT

Methods are provided for the statistical analysis of interactions among agents in a combination of agents (i.e. departures from additivity), with respect to a quantifiable result of exposure to the combination of agents. Examples include the interactions among chemicals in a mixture of chemicals with respect to health disorders caused by exposure to the mixture of chemicals. The invention provides methods for determining how many of the agents in the mixture interact, whether the interaction is synergistic or antagonistic, and the interaction threshold concentration of agents at which interactions are observed. Further, the methods are especially useful for analyzing combinations of three or more agents for which classical methods of analysis would require a prohibitively large number of data points. Software programs for implementing the invention are also provided.